

Head Of Colo. Electronic Technical College To Speak At April Meeting

Robert Turkisher, president of the Colorado Electronic Technical College in Manitou Springs, will be the speaker at the April 12 meeting of the PPRAA. The meeting, as usual will be in the Security Savings East Building, East Platte and Union Boulevard, starting at 7:30 p.m. Doors will be open for the "early comers" to do some QSOing before then.

Mr. Turkisher will speak on Biomedical instrumentation, one of the courses taught at the college. He will cover various items, including categories, FCC licensing, patient monitoring, pacemeters and transmitters and telemetry.

He is retired from military service and obtained his first amateur radio operator's license in 1938 in Florida with the call W4FNM. While in the service he operated an amateur station on Guam from 1948 to 1950. Since that time, however, he has not been active in amateur radio.

Among amateurs teaching at the college are Dan Becker, WØLAH, and Earl Leonard, WØSWM--long a member of the PPRAA.

The college sponsors amateur radio activities by a Communications Explorer Scout Post.

There will be the usual door prizes and during the break, coffee prepared by Marty Brown, W2VYK/Ø, plus a variety of doughnuts to go with the excellent coffee Marty makes.

* Novice's
* Notations
*

By Mike Anderson, WØEQM

First I would like to mention that the Friday night QSO is not working. The QSO is on 7175 kHz, 0500 GMT, each Friday. So please come and join the few who enjoy this sort of thing.

I would like to thank all the hams that sent me a list of all the spare equipment that could be used by a novice. I will keep my eye on some myself.

To all Novices. I would like to be the one to express your opinions but I cannot do this unless you send me your gripes, communications or opinions. So write to me at 510 West Polk Street, Colorado Springs 80907, and let's get these things out in the open where we can work on them.

Next month I hope to have a real treat in this column. Wonder how I send CW correctly? Hi, Hi. CUL on 40 meters.

-o-o-o-o-

Why must a crowd be absolutely quiet when a golfer addresses a stationary ball--but may yell like crazy when a batter is having one thrown at him at 90 miles an hour?

Handicapped Follow World Events By Means Of Amateur Radio Net

An Associated Press story which appeared in the March 2 Amarillo (Texas) Globe-Times, chronicles what Amateur Radio is doing for the handicapped in Texas and Oklahoma. Since this story was a splendid telling of the worth of Amateur radio for the enlightenment of the public, the story is reprinted here for Zero Beat readers.

Conduct Of Field Day Activities To Be Discussed At May 10 PPRAA Meeting

A discussion of the procedures which PPRAA will follow on Field Day in June will be the main subject of discussion at the May PPRAA meeting, according to Wayne Brown, W2TPV/Ø, who is in charge of the program for that meeting.

Wayne stated at the March meeting that a decision should be made whether the club should consider Field Day as a time for participating in a contest and trying to accumulate the most points possible during the period or whether it should be, as if has been handled on recent Field Days, as more of a social affair.

It was pointed out that if Field Day participation was to become a social affair, it would be well to find a more comfortable place to conduct it than at the location in Memorial Park.

If, on the other hand, it was to be conducted as a contest-type operation, Wayne suggested that it might be better to stage it outside of the Springs metropolitan area. This idea was based on premise that if Field Day participants had to travel further to get to the operating site, there might be less chance of operators dropping by for brief periods of operation and leaving the station short of operators during the early morning hours.

PIRAA members should think over both types of Field Day actions between now and the May meeting, Wayne pointed out, so that they would have ideas and/or suggestions to be made known at the May meeting to help the club decide just which type of operation to engage in during Field Day this year.

ROUTE MANAGER'S CORNER

By "Bud" Thompson
WØLRN

(Bud Thompson, WØLRN, Colorado Route Manager, was "generous" month--he sent us two "Route Manager's Corner" columns--one early in the month and the other just before press time. Since the second column received refers to and ties in with the first, we are printing both in this issue. The other column starts on Page 6. --WØHWH, Editor)

With so many new operators on the various traffic nets lately, we have observed some rather sloppy operating

MINERAL WELLS, Tex. (AP)--The sun is shining brighter for Olin Chancellor of Mineral Wells. This is because he is a member of a special radio net for the handicapped. No longer is he lonely and cut off from contacts.

Chancellor has seen many dark days in the past six years, but now he is well up on world affairs and has many special friends--few of whom he has seen.

Chancellor suffered a severe stroke six years ago which left him speechless and which paralyzed his right side.

After a stay in a veteran's hospital, he was brought home to what would appear a life of loneliness. But a few people thought differently.

Although Chancellor could not speak, nothing was wrong with his hearing. So the group interested him in amateur radio arrangement by which they could talk to him.

After many months of effort, relates staff writer Carol Canterbury in a recent edition of the Mineral Wells index, Chancellor began to talk slowly into a microphone. The patience shown by his friends encouraged him to keep trying. He even became a member and officer of a local club.

Then followed much study and hard work and Chancellor passed his ham radio license test.

Thus he is now a member of the unusual association--the Handicapped Information Net of more than 80 members.

The net was organized and is directed by a group of handicapped amateurs. One of its aims was to help handicapped persons to obtain a license which will connect them with the outside world.

The net, however, contains some amateurs who are not handicapped.

(Continued on page 5)

habits. This is due, primarily, to a combination of factors.

1. Unfamiliarity of standard procedures by the new ops,
2. Relaxation of procedures by old operators, and
3. The more frequent use of transceivers on CW.

The most annoying of these sloppy operating habits is the lack of precision in zero beating the net control station with whom traffic is being relayed. Some operators may have dif-

(Continued on Page 3)

ZERO BEAT

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The PPRAA meets the second Wednesday of each month in the Security Savings East Building,
East Platte at Union Boulevard, Colorado Springs

EDITORIAL**Amateur Radio, Going Good, Or Going Bad?**

(As our "guest editorial" this month we are "borrowing" from the "Collector and Emitter" of the Aeronautical Center Amateur Radio Club of Oklahoma City the following very pertinent editorial which, written by H. F. Evertick, originally appeared in the Amateur Radio Observation Post).

"There is more in heaven and earth, Horatio, than is dreamt of in your philosophy."

How many times have you read a reason d'etre for Amateur Radio? When frequencies come up for discussion there are always people who are ready to say Amateur Radio is finished, washed up, kaput.

They say the shiny black box killed the art.

They believe that a number of Amateurs today cannot even service their shiny black boxes; and, even if they could, they would not dare do so for fear of depreciating the resale value.

Others come up with the argument that commerce is way ahead of us and what's more will become even further ahead as the result of research and exploitation of new techniques.

Stop a moment. Has it really been any different? Were all the pioneers of electricity and electronics Amateurs? Did an Amateur invent and develop the semiconductor?

And what about those old time sets? I can remember many an old time piece of commercial gear. I must admit that the percentage of home-brewing was higher yesteryear. But set against this, the number of Amateurs was very considerably less. How many Amateurs were licensed in 1938 compared with today--a tenth, maybe.

Yes, you will say, in those days we did all our own metal bashing. This was after the breadboard went out of favour and components began to be con-

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structed with wire connections instead of screw-type connectors. The hookup wire per se disappeared. Commerce developed the gimmicks, you will say, and we Amateurs merely followed suit. Along came disposals gear which we merely adapted to our own purposes. We followed the techniques of printed boards; many of us have thrown out the valve except possibly for r.f. power amplification because it is cheaper.

Now we need slim fingers, pencil point soldering irons and a magnifying glass for constructional work. Heavens above, I do believe we even buy printed circuit boards all made up ready to solder in the appropriate components. Before long, we might hook up a row of ICs and hey presto, there is a receiver ready to go. No need to bother with modules, even.

Yes, I do not doubt the facts. Rather than becoming pessimistic about all these trends, however, I feel a little optimism coming on. It is good that the commercials go ahead and become more specialised. What a splendid thing this is for us.

Make no mistake. We Amateurs are still the only mob who not only communicate around the globe, but, to a large extent, can hopefully keep our gear pushing out the watts and our receivers bringing in the intelligence under all kinds of adverse and difficult conditions. The specialist must ever strike beyond his horizon but nevertheless must keep his feet on the ground. What better way for him to keep in touch with ordinary mortals than through Amateur Radio which is a blending of a whole range of skills, specialised and ordinary. Amateur Radio is unique and limitless as someone said the other day.

It is not solely a question that the

world needs people to do something for no cash reward. Without the Amateur Service and its influence the electronics business might not be where it is today. There is constant feedback between the two. By definition the specialist concentrates on one field of activity. By his achievements in many diverse spheres of activity is the Amateur known.

(Note--Though Collector and Emitter, in its reprinting of this editorial, does not say so, it is evident from the spelling of the word "specialised" (as against the Americanized spelling of "specialized") and the use, in the eighth paragraph, of the word "valve" in place of the American "tube," this comes from a British publication---Editor).

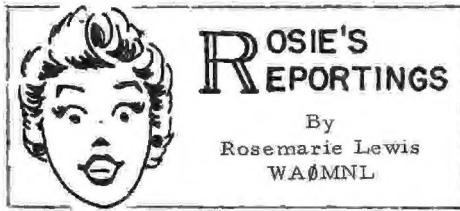
-o-

After our short article last month on the Retirees Net of the American Association of Retired Persons, Walt Melvin, KØSPR, head of the Colorado system of the net, was at the March meeting and spoke on this interesting net. We hope to have a complete rundown next month on this activity so that anyone interested will know how and where to see about becoming a member of the net.

-o-

When we return from our three-week vacation this month we'll have less than a week to edit, type and put together the May issue of Zero Beat. We will, therefore, greatly appreciate the cooperation of all our contributors and we hope we'll find lots of material in our mail.

---Frank, WØHWH



WN0EQM, Mike Anderson, is now a certified scuba diver. Anyone have a waterproof rig that Mike can use while on one of his dives?

-rr-

WA0MNM, Linda Vidmar, and Jim, her OM, announce the arrival of an 8 pound 10 ounce harmonic at their QTH. The new arrival is named Jimmy. He was born February 27. Grandparents WA0ERA, Eldon and WA0MNL, Rosie Lewis testify that he is a handful.

-rr-

WA0DAL, Larry Lewis, is student teaching at Palmer High School under the direction of K0LZD, Ron Seats.

-rr-

WaPTV#, Wayne Brown, has made the ARRL Service Honor Roll for five consecutive months.

-rr-

W7HX, A. J. Hoggins, hails from Bountiful, Utah. He has been in the area for five months and has been issued the call W0NR. A. J. is a new PPRAA member.

-rr-

WA0PJG, Rudy Wroblewski, and his XYL like their new home on Pleasant. Rudy didn't even take down his antenna when they moved--just left it for W0MIN, Tom Mason.

-rr-

Eldon and I are off to Iowa to see Eldon's mother, who is "doing poorly."

-rr-

W0HWH, Frank Craw, Zero Beat editor, and his XYL, Midori, headed in the opposite direction April 1 for three weeks to visit his mother in Portland, Ore., Frank's former QTH, where he operated as W7HUI, starting in 1936, before donning his Army uniform before World War II, and again in 1954 when he was assigned to Oregon Military District before going to Japan to meet his XYL, then after retiring from military service, returning to Colorado Springs to become W0HWH.

-rr-

A word of caution: When you receive a license from the FCC, be sure and check every detail. Make certain your name is correct. For instance, the middle initial being incorrect can cause you grief at a later date--this happened to one PPRAA member. So even if returning a ticket for correction delays your getting on the air--have it corrected!

-0-0-0-

Progress nowadays seems to be the art of making bigger and better circles to run around in.

ROUTE MANAGER'S CORNER

(Continued from Page 1)

ficulty in precisely zero beating due to:

1. Lack of ability to properly establish two notes at the same audio pitch (on CW),

2. Not having an adequate "spotting" technique available with their gear, or

3. Having some off-set in the transceiver on SSB that should not be there.

While the old-fashioned way of zero beating by tuning in the desired station to "dead zero," then tuning your spot to "dead zero" in the receiver has been generally superseded by other techniques, it will result in acceptable zero beating compared to what some CW operators are currently doing.

A more precise method is to tune the desired station (i.e. NCS) to your favorite listening audio pitch, then tune your spot note from VFO until it sounds just like the NCS. If the two signals are steady, you should be able to see the S meter wiggle as you get within 20 Hertz or so. With practice you can zero beat easily to better than 50 Hertz this way, even without the benefit of a steady signal from the NCS.

It is beyond me how some stations can so precisely "zero" my signal exactly 800 Hertz lower than my transmitter signal--right "dead zero" where I am listening for them. Yet these stations cannot get on my frequency!

If you are using a transceiver for CW that has no receiver incremental tuning (RIT) or permanent off-set for CW, you are going to be as far off zero beat with the NCS as the audio note to which you have him tuned. The discriminating CW operator will finally get some sort of RIT as a convenience.

If your transceiver has a permanent

off-set for CW, check the instruction manual to see what it is--it will usually be between 500-1,000 Hertz. You should tune in the NCS at that audio pitch, and your transmitted signal will be close to his.

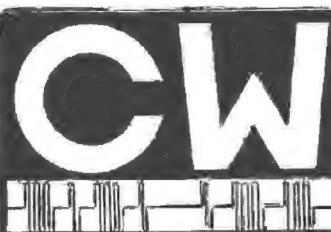
If you cannot hear audio tones that precisely, tune in the NCS "dead zero" and then tune the dial to the next 500 or 1,000 Hertz mark, whichever is indicated by the offset in the manual. Providing you have shifted in the direction which makes the NCS most audible, your transmitted signal should be within 200 Hertz, which is close enough for government work.

If you are using an older receiver and separate transmitter, and the NCS is using a modern SSB-type receiver, you may set up on the wrong side for him. If he does not answer you, just tune your receiver to the other side of zero, and readjust your transmitter.

On SSB the major problem comes from each of the operators not knowing what the other guy's voice sounds like naturally. However, if you tune the NCS in so he is intelligible, and not distorted, you should be close enough so long as there is no permanent off-set in your transceiver. If you are setting up to check into a phone net with CW, you should tune the NCS as above, then set your spotted signal to approximately, a 1,000 Hertz note in your receiver. If you set it to zero beat there, he will not hear you. When on AM, you should set your spot to zero when listening to the NCS on SSB.

For Colorado traffic nets, the following criteria is established for QNZ: You should be within 200 Hertz, and

(Continued on Page 7)



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Handicapped Amateur Radio Net

(Continued from Page 1)

These are vital to the operation, since they maintain the equipment, install antennas and provide instruction.

The net includes some members who are blind, others crippled and some bedfast.

Simple conversation with people they can never hope to meet is what gives the members the desire to keep going and gives the lonely ones the lift they want to live and be a part of something, the Index reporter relates.

If a member misses two days of roll call, the group sends one of the non-handicapped to find out what is wrong. Of one of the members will telephone long distance to make sure the member is all right.

The net offers the handicapped physical as well as spiritual help, for someone is listening on the net at all times and is ready to seek help in case of trouble.

The net got its beginning Feb. 12, 1969, with the first roll call receiving five replies. Today there are 80 to 85 replies at each of the three roll calls each weekday.

Managing and one of the first members is Ralph "Buddy" Boyd of Conroe. He operates his radio with a self-tuning rod between his teeth. He had a swimming accident at the age of 15 and is bedfast.

Happy Birthday

(Continued from front cover)

We have a favor to ask of you, the readers of Zero Beat---some assistance in two ways.

First, your contributions in the way of articles or news items "about the PPRAA and its members and its activities or about Amateur Radio in general---or even some artwork for Zero Beat, if you are so talented--even only "semi-talented."

Second, your help in "selling" Zero Beat--as a good advertising medium--to your friends or associates who are in any kind of business as an excellent way to a good market for their services or businesses or wares. The more advertising in Zero Beat, the less the drain on PPRAA club funds to make up the remaining cost of printing and mailing Zero Beat in its present form.

-o-o-o-o-

A professor was trying to stress the importance of having a good vocabulary in mathematics. Taking a tip from an English professor friend of his, he said, "I assure you that if you repeat a word 10 or 12 times, it will be yours forever."

He had no sooner finished saying this than he noticed a young girl in the back of his class take a deep breath, close her eyes and whisper, "Michael, Michael, Michael . . ."

Otto Huggens of Whittett is assistant manager and the man who calls the roll. Velma Lee Rüdel serves as secretary. She has assisted in the care of Boyd for 19 years.

Trouble shooter is Bob Johnson of Houston. He has a respiratory problem and is confined to his home. His duties are to listen for anyone with radio trouble and get help to them.

There are many members who are not handicapped and these are the ones Johnson calls on to assist with repairs.

One of the most active members is Phillips Rosenstein of Corpus Christi. He travels hundreds of miles every year to set up radios, antennas and to teach beginners. John Beach and John Kendrick are among those who set up Chancellor's radio.

Members from Fort Worth who came to Mineral Wells and installed Chancellor's antenna were Nat Davis, Noah Pritchett and Paul Spock.

Paul R. Hopkins of Mineral Wells also aided in arranging Chancellor's installation.

Some of the members are known on the net largely by first names.

One is Dianne, a 14-year-old sightless girl who obtained her license in the past year.

More.

There is Ben, a justice of peace at Santa Anna who gets around in a motorized wheelchair and can only move from his neck up.

Another active member is Dorothy of Oklahoma City. She is starting a school to teach new operators. Although Dorothy is blind, she has a master's degree.

EMERY STUDIO

Heard on the Party Line

BY CHARLIE VORDERBERG
W0CGT

(Reprinted from the Amateur Radio News Service "Bulletin")



The OM is over the hill when he passes up a girlie calendar for one that is put out by an electronics company that has enough room to write the dates of the grandchildren's birthdays.

-o-

There isn't a word of mouth truth to the rumor that we stepped on a scale recently and got a fortune-telling card which read "Don't forget to dip your final."

-o-

Did you hear about the rotund OM who, since New Year's Eve, has been drinking Metrecal spiked with gin and remarked, "I still see pink elephants--but they are getting thinner."

-o-

The YL wouldn't come back to us on 40 meters when we asked her if there was any truth to the story that the small mouth bass are the males and the large mouth bass are the females.

-o-

It was in answer to her remark that one rarely hears an XYL making a fool out of the OM without cooperation.

-o-

A rig with a new S-meter and the mini-skirt have a lot in common. Both save a lot of guesswork.

-o-

No, Virginia, wire tapping is not the Jr. op and a YL with braces kissing.

EMERY STUDIO

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UNDERSTANDING COMPUTERS

From the Pueblo Ham Club "Grid Leak"

By Robert "Bob" Shriner
WA0UZO

Part 3

In previous lessons, we have purposely avoided a discussion of Boolean Algebra.

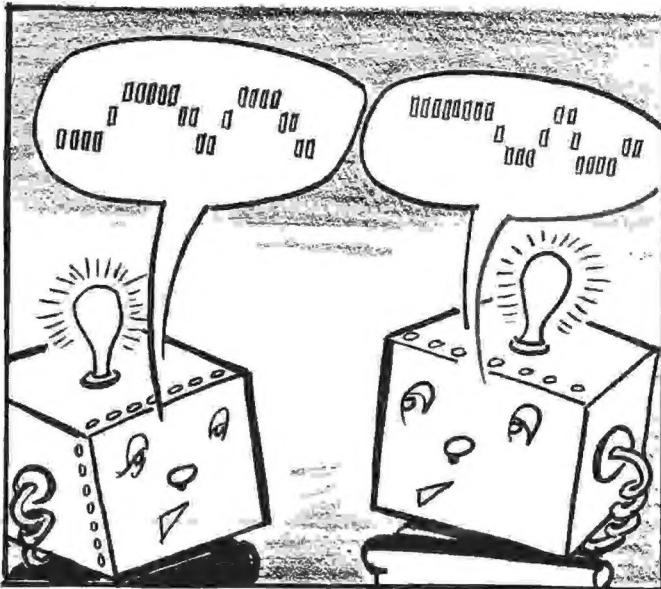
In 1847, George Boole formulated an algebraic system based on the concepts of Aristotle. This "logical algebra" system proved very interesting; however there was no practical use for it until the late 1930's.

A "symbolically logical equation" is used as a substitute for a logical expression using words. These equations are manipulated using Boolean Algebra, making it possible to solve logical problems by means of a Boolean calculation.

The system itself deals with statements which are either True or False. A True statement is assigned a value of 1 while the value of a False statement is 0. These two numbers (1 and 0) are the only permissible values in Boolean Algebra. This must be remembered when dealing with the Boolean system.

1. The Truth Table.

A Truth Table is a chart which depicts the value of an output for all possible combinations of the independent input variables. Initially, the student may tend to treat the construction of the Truth Table as a cumbersome time-consuming effort. This notion must be dispelled emphatically. DO NOT UNDERESTIMATE



2. Definitions.

- a. Constant - a quantity having a fixed value. In Boolean, 1 and 0 are the only possible constants. A 1 is interpreted as meaning TRUE; a 0 means NOT TRUE (FALSE)

liaison station to another net.

You should consider the ultimate destination of your traffic prior to checking into the net, and have your traffic list properly made up in advance. Consider also which of the traffic is the most time-frame limited on the net. On most NTS nets, "thru" traffic must be handled first, to enable the liaison man to meet the next net on the relay chain.

When listing traffic list the number of messages for each destination prior to the destination, i.e. "2 TWN", Twelfth Region Net. A composite traffic list for a station checking into a Colorado traffic net might be: "de WØME QTC 3 TWN 2 CO SPGS 1 DEN K." The messages for TWN might also be listed simply as "3 THRU." It

- b. Variable - a quantity which can take on the value of either constant at a given time. A variable can either be a 1 or a 0, and is represented by letters of the alphabet (A, B, X, Y, etc.)
- c. Operations - methods of combining or transforming quantities. In college algebra, the basic operations are: addition, subtraction, multiplication and division. In Boolean Algebra, the basic operations are inversion, AND and OR.
- d. Expression - a string of constants and/or variables, connected by one or more operations. An expression may contain parenthesis; however it may not contain an equality sign (=) Example : $A \cdot B \cdot C = 1; 2 + 4 = 6$.

Next month we will go into actual operation of the various functions of the computer and will attempt to explain the various gates and how they operate. By understanding the logic of how the computer

operates, one can simplify the solving of many everyday problems. You may not know it, but you use Binary Arithmetic, Boolean Algebra and Logic every day. All that remains is to understand what you are doing to be able to apply it on a much larger scale.

ROUTE MANAGER'S CORNER

By
Bud Thompson
WØLRN

There are two basic ways of checking into a net: (1) without traffic, and (2) with traffic.

The first is not hard: in CW you simply send "(WØNCS de WØME (WNI) QRU K," and on 'phone "(WØNCS) this is WØMR, no traffic." This is not the time for informal chit-chat, comments on signals, hello to a long lost friend who checked in earlier, or the like. Phrases such as "negative traffic," and "QRU" on 'phone are frowned upon by discriminating traffic men.

There are two basic types of traffic classified by destination: (1) traffic for areas within a geographical relay area of the net (cities within a state net, sections within a region net, regions within an area net), and (2) "thru" traffic which must be relayed by a

would be considered improper to list the three thru as "1 FLA 2 OK," since the next level NTS net (TWN) does not handle Florida and Oklahoma direct, but through the Pacific AreaNet (PAN).

On TWN, you should first list traffic going to PAN, and then break down traffic going to the five sections comprising TWN (AZ, CO, NM, UT, WY). A typical traffic list on TWN might be: "de WØME QTC 4 PAN 2 AZ 1 NM K." If you have a message specifically addressed to one of the net members, you should list it last, such as "de WØME QTC 1 PAN 2 WY 1 K7NHL K."

Precedence routine is implied if precedence is given in the traffic list. Emergency or priority messages, when on the list, should be listed first. (Continued on Page 7)

The SCM Shack =

By Clyde Penny, WA0HLQ

Among the many advantages of membership in ARRL is the opportunity to serve Amateur Radio in one of several League Official Appointments available in all sections of the field organization. A brief outline of these appointments follows:

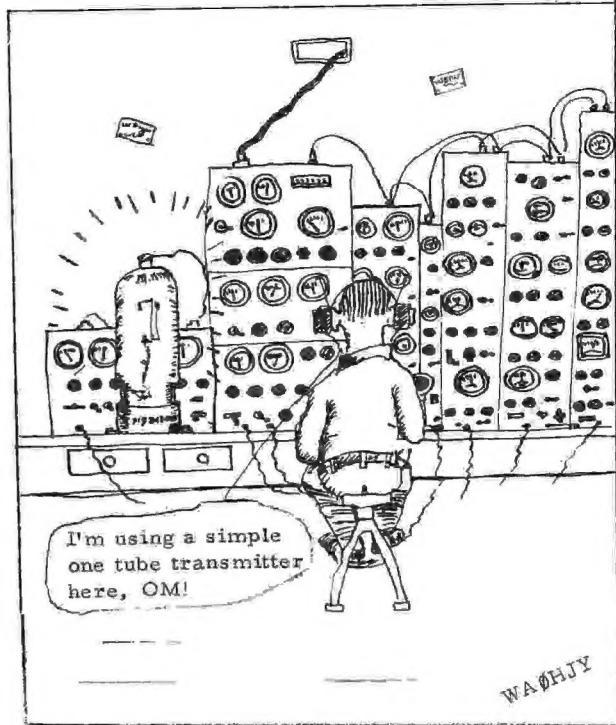
Official Observer (OO): The OO monitors the Amateur bands as a friend of the Amateur. It is his responsibility to advise Amateurs of the deficiencies in their on-the-air signals, so that the Amateur concerned may have an opportunity to clean up his signal before an FCC monitoring station hears the signal and takes official notice of it.

To become an OO, the applicant must have had at last four years experience as a General Class (or higher) licensee. He must also possess equipment and must demonstrate the capability of the equipment to meet the requirements of the Observer Class for which he is applying.

The four classes of OOs are as follows: Class I - Precise Frequency Measuring (plus or minus 1 Kc at 14 Mc). Class II - General Frequency Measuring (plus or minus 5 Kc at 14 Mc). Class III - Radiotelephone checks for modulation, quality, splatter and flat-topping. Class IV - Radiotelegraph and/or RTTY checks on notes, clicks, chirps, stability.

All OOs are required to send friendly, cooperative reports to stations heard radiating signals not in compliance with FCC rules and regulations covering the quality of such signals as set forth in Part 97 of the U. S. Amateur Regulations. All OOs are also required to submit monthly reports to the SCM covering their activities as an OO.

Other appointments available are OBS, OVS, ORS and OPS. The duties and requirements of each of these appointments will be covered in future articles.



From the Denver Radio Club "Round Table"

Route Manager's

(Continued from Page 6)

MERGENCY should be spelled out, and "P" used for priority. Of course, use of plain text is indicated for these on 'phone. A traffic list during an emergency situation might look like this: "de W0ME QTC 1 EMERGENCY GUNNISON 2 P CO SPGS 1 TWN 2 DEN K." The NCS should endeavor to handle the traffic in decreasing order of precedence.

If you do not know the coverage of a particular net, or which Area, Region or Section a certain part of the country is in, this information is outlined in the annual ARRL NET DIRECTORY, available for the asking and an SASE from Newington, Conn. Traffic routing information may also be found in the Radio Amateur's Operating Manual and in the "Public Service Communications" pamphlet, both of which are published by the ARRL. Your net's operations will be much more efficient if you know the proper routing for all your traffic prior to listing it on the net.

-o-o-o-o-

Route Manager's

(Continued from Page 3)

the closer the better. All NCS are urged to inform stations outside that limit that they are either too high (QNH), or too low (QNL), and the station should take corrective action. Those regular CW stations with transceivers without off-set capability should notify the net manager so he can forewarn net members in the net bulletin.

FOR SALE--ElectroVoice 676 dynamic microphone, TX-62 Ameco AM transmitter for 6 and 2 meters with VFO, Globe 755A with VFO, Tom Mason, W0MIN, 3150 West Colorado, phone 635-3679.

-o-o-o-o-

Never have we seen a bird that wanted a nest that didn't get one. This is because birds, being dumb creatures, do not depend on conferences, committees and politicians to supply the nests.

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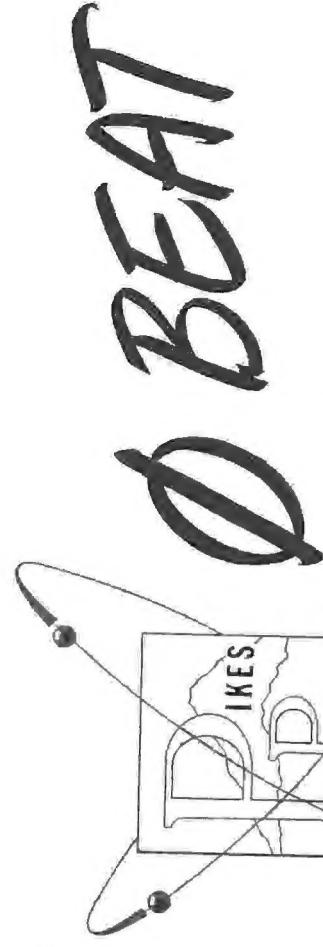
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COLORADO SPRINGS, COLORADO

April 1972

Happy 'Birthday' To Us!

ZERO BEAT EDITOR
PIKES PEAK RADIO AMATEUR ASSN., Inc.
1142 Rainier Drive
Colorado Springs, Colorado 80910

Well, at least it's sort of a birthday, as with this issue of Zero Beat we start our second year in its present format--a Zero Beat much improved, so we feel (and our readers have expressed the same feeling), over Zero Beats that we or any other editor has put out prior to the time we published our first Zero Beat in this format in April 1971.

We thank everyone who has participated in the articles, ideas and distribution of Zero Beat during the past year--Rosie Lewis for her monthly column of news about PPRAA members and other "goings on," continued from the Zero Beat in its former format--Rosie, George Kowalski and Bill King for their fine work in distribution of the publication--Williams and Field Inc., the printers who have done such an excellent job of printing Zero Beat--and especially our advertisers whose financial support has helped finance the cost of printing Zero Beat in its present more expensive form.

We also wish to thank those publications with which we exchange for the fine material we have reprinted from their pages and especially thank Bob Sharner for his splendid series on Understanding Computers, currently running in Zero Beat (also our thanks to the Pueblo Ham Club for printing it originally so that we could reprint it).

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